

The Production of Pions by Negative Pions on Hydrogen Near the Threshold 56-2-5/51

energy. At the energy 370 MeV the measured cross section is ~60% of the differential cross section of the elastic scattering. There are 9 figures, 1 table, and 12 references, 7 of which are Slavic.

ASSOCIATION: United Institute for Nuclear Research (Ob'yedinennyy institut yadernykh issledovaniy)

SUBMITTED: October 19, 1957

AVAILABLE: Library of Congress

1. Pions-Production
2. Scintillation counters-Applications
3. Hydrogen-Meson cross section studies

Card 3/3

ACCESSION NR: AP4037616

S/0056/64/046/005/1919/1920

AUTHORS: Zinov, V. G.; Konin, A. D.; Mukhin, A. I.

TITLE: Transfer negative muon from a proton to carbon

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 5, 1964, 1919-1920

TOPIC TAGS: muon, muon transfer, muon K capture, carbon, polyethylene, x ray line

ABSTRACT: The transfer of muons to only excited levels of a $Z\mu$ -mesic atom with further cascade transition of the system to the ground state, followed by emission of a K-mesic x-ray series, which can be useful in the study of reverse mesic-atom processes that occur in compounds or mixtures containing hydrogen, was investigated by comparing the intensities of the K series from mesic atoms of carbon, produced when negatively charged muons are stopped in carbon (graphite) and in polyethylene (CH_2). The data indicate that if it is as-

Card 1/3

ACCESSION NR: AP4037616

sumed that the probabilities of the muons landing on C and H are proportional to their charges, then the muons which jump over from the proton to the carbon in the cascade transitions give a K-mesic x-ray series whose intensity is 0.98 ± 0.03 of the intensity occurring in the case of direct landing of the muons on the carbon. "The authors are grateful to S. S. Gershteyn for discussions."

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy
(Joint Institute of Nuclear Research)

SUBMITTED: 26Feb64

DATE ACQ: 09Jun64

ENCL: 01

SUB CODE: NP

NR REF SOV: 003

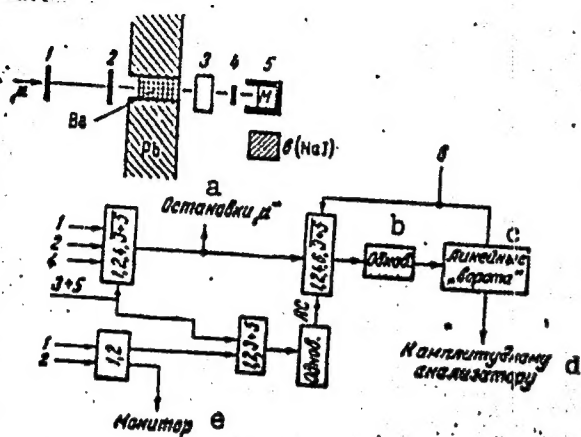
OTHER: 001

Card

2/3

ACCESSION NR: AP4037616

ENCLOSURE: 01



Experimental set-up and block diagram of the electronic circuitry: Pb - lead shield, Be - beryllium filter, M - sample (C or CH₂), 1, 2, 4, 5 - counters with plastic scintillators, 3 - counter with Cerenkov radiator, a - muon stopping, b - univibrator, c - linear gates, d - to pulse-height analyzer, e - monitor

Card 3/3

ZINOV, V.G.; KONIN, A.D.; MUKHIN, A.I.

Atomic capture of negative muons in chemical compounds. IAd. fiz.
2 no.5:859-867 N. '65. (MIRA 18:12)

1. Ob'yedinennyy institut yadernykh issledovaniy.

L 23257-66 EWT(m)/T

ACC NR: AP6009154

SOURCE CODE: UR/0367/65/002/005/0859/0867

AUTHOR: Zinov, V. G.; Konin, A. D.; Mukhin, A. I.

ORG: Joint Institute of Nuclear Research (Ob'yedinenyy institut yadernykh issledovaniy)

TITLE: Atomic capture of negative muons in chemical compounds

SOURCE: Yadernaya fizika, v. 2, no. 5, 1965, 859-867

TOPIC TAGS: Mu meson, capture cross section, chemical compound, Pi meson, electron, oxide, probability

ABSTRACT: The authors investigated the atomic capture of negative muons in binary compounds of the type A_1B_m . Whereas earlier experimental work on the determination of the probability of atomic capture in chemical compounds was based on the method of time analysis, which entails considerable difficulties, the authors have used an experimental procedure based on measurement of the intensity of the K-mesic x-ray, arising from one of the elements in pure form, and from the same element in the chemical compound. The work was performed with the OIYAI synchrocyclotron, using a beam of negative particles of 150 Mev/c momentum, containing approximately equal amounts of pions, muons, and electrons (Fig. 1). The characteristics of the apparatus are described in detail. The results show that the ratio of the pro-

Card 1/2

L 23257-66

ACC NR: AP6009154

probabilities of the atomic capture of muons in oxides varies with increasing charge of the nucleus in accordance with the periodic table, and depends on the type of the compound (MgO and MgO_2 , etc.). The ratio of probabilities of the atomic capture in metal halides and in a form of metals is also described by the periodic table. The authors thank I. A. Yutandov for supplying numerous chemical compounds and their purification, Yu. G. Budayshov, B. Ya. Semenov, A. N. Shvayev, N. S. Zolotarev, and A. P. Chernov for their assistance in the experiment.

Figures, 3 formulas, and 2 tables.

SUB CODE: 20/
Card 2/2

SUBM DATE: 28 May 65

ORIG REF: 002/

OTH REF: 007

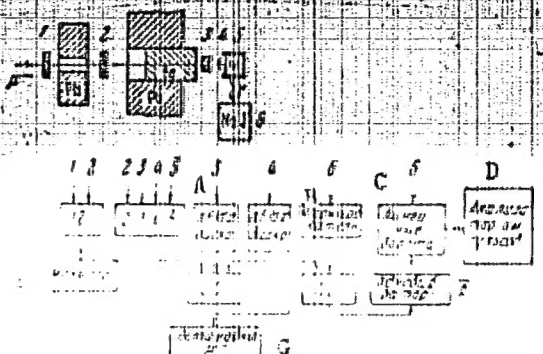


Fig. 1. Geometry of experiment and block diagram of electronic equipment. A - Discriminator, B - shaper, C - linear gates, D - time analyzer, E - pulse generator, F - unit for data processing, G - control circuit.

ZINOV, V.G.

Calibration of the scale of time analyzers. Prib. i tekhn. eksp.
8 no.1:165-166 Ja-F '63. (MIRA 16:5)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Pulse techniques (Electronics))
(Electronic apparatus and appliances)

ZINOV, V.G.

Use of tubes at low electrode voltages in coincidence circuits.

Prib. i tekhn. eksp. 8 no.1:173-174 Ja-F '63.

(MIRA 16:5)

1. Ob"yedinennyy institut yadernykh issledovaniy.

(Electric circuits) (Electron tubes)

AUTHOR: Zinov, V.G.

TITLE: Calibration of time-analyzers

1. - "Zhurnal" "Izvestiya Akademii Nauk SSSR", no. 1, 1963.

shown in Fig. 2. There are 3 lines

Card 1/2

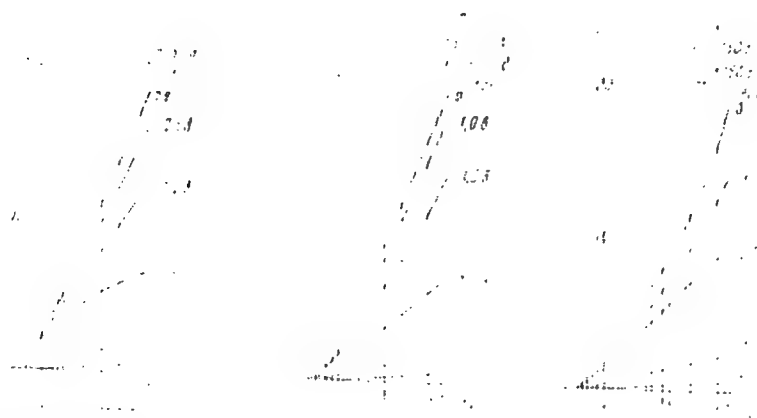
Card 2/3

Use of vacuum tubes

S/120/63/000/001/052/072
E192/E382

Similar results were obtained with other tubes by using the first
grid of the detector tube as a detector.

Observation of vacuum tubes in the detector tube.



S/120/62/000/005/017/036
E192/E382

AUTHORS: Zinov, V.G. and Medved', S.V.

TITLE: Smoothing of the time intervals between randomly distributed pulses

PERIODICAL: Pribory i tekhnika eksperimenta, no. 5, 1962,
104 - 105

TEXT: Smoothing of the time intervals between randomly distributed pulses can be done by a circuit consisting of: a forming stage; integrating circuit; limiter-amplifier and a pulse-generator. The forming stage produces "standard" pulses such that each pulse imparts an arbitrary unit charge to the integrating circuit. The capacitance of the integrating circuit discharges linearly and the discharge time is equal to $\tau = CV/I$, where C is the capacitance, V is the voltage to which a standard pulse charges the capacitor and I is the discharge current. If m pulses are rapidly applied to the system, the overall discharge time is $T = mCV/I$. T is therefore dependent on the number of input pulses and is independent of the instant of their appearance. The limiter

Card 1/2

S/120/62/000/005/017/036

Smoothing of the time intervals... E192/E382

amplifier then generates a pulse whose duration is $m\tau$. This pulse actuates the generator, whose natural period is also equal to τ . The operation of the generator is only possible in the presence of the pulse from the limiter. The number of output pulses from the generator is therefore equal to the number of input pulses but the spacing between them will always be equal to or longer than τ . A detailed circuit diagram of the integrating-circuit amplifier and the generator is shown in Fig. 2. The authors express their gratitude to A.A. Tyapkin for valuable advice. There are 3 figures.

ASSOCIATION: Ob'yedinennyy Institut yadernykh issledovaniy
(Joint Institute for Nuclear Research)

SUBMITTED: January 18, 1962

Card 2/12

85677

S/056/60/038/006/019/049/XX
B006/B070

24.6900 (1138, 1191, 1559)

AUTHORS: Zinov, V. G., Konin, A. D., Korenchenko, S. M.,
Pontekorvo, D.

TITLE: The Search for the ρ^0 Meson and the Verification of
Dispersion Relations in πN Scattering

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki,
1960, Vol. 38, No. 6, pp. 1708 - 1714

TEXT: Results of $\pi^- p$ interaction cross section (σ_t^-) measurements
and of the energy dependence of σ_t^- , as well as a comparison of the
results with those obtained by other authors are given. The object
of the study was to look for anomalies in the energy distribution of
 σ_t^- (ρ^0 meson) and to check the Puppi-Stanghellini problem. The
experimental arrangement is first described (Fig. 1). The target was
liquid hydrogen in a vessel made of foam polystyrene (walls, 0.8 g/cm²).
The hydrogen density was 0.0708 g/cm³ so that $(0.4607 \pm 0.0023) \cdot 10^{24}$

Card 1/4

85677

The Search for the ρ^0 Meson and the
Verification of Dispersion Relations
in πN Scattering

S/056/60/038/006/019/049/XX
B006/B070

hydrogen nuclei fell in the path of the beam trajectory per cm^2 . The electronic apparatus was the same as described in Ref. 3; the photo-multipliers used together with the scintillation counters were of the type $\Phi\gamma-33$ (FEU-33). Due to the exactly stabilized magnetic field ($\pm 0.1\%$) and the exact measurement of the Hall current (0.5%), the pion momentum could be determined with an accuracy of $\pm 1\%$. The energy spread of the beam was ± 0.5 Mev/cm. The energy loss in hydrogen was ~ 3 Mev. σ_t was measured for about 50 pion energy values in the range 140-360 Mev with a total accuracy of $1.5 \pm 2\%$, but no anomalies could be found which would indicate the existence of a ρ^0 meson. The individual values of measurement are shown in a table; the data for accuracy refer to systematic errors. The results of the study are discussed in detail. The fact that no anomalies exceeding 3 - 4% could be found in the energy dependence of the cross section values for the energy range 140 - 360 Mev, and so no ρ^0 meson having a mass of between 270 and 410 Mev/c^2 could be found, does not mean that no such mesons exist. The data obtained are in conflict with the peaks

Card 2/4

85677

The Search for the ρ^0 Meson and the
Verification of Dispersion Relations
in πN Scattering

S/056/60/038/006/019/049/XX
B006/B070

for $\sigma_t(E)$ ($E_2 \sim 650$ Mev and $E_3 \sim 950$ Mev) obtained by Frisch et al.,
but agree with the values ($E_2 \sim 610$, $E_3 \sim 880$ Mev) obtained by Brisson.
The data are also in agreement with the dispersion relations for
 πp scattering. So it can be proved that the Puppi-Stanghellini
problem as such does not exist; it arises only from the inaccuracy
in the measurement of the total πp interaction cross section.
S. N. Sokolov, A. I. Mukhin, V. A. Meshcheryakov, and N. P. Klepikov
are thanked for discussions, and Yu. N. Denisov for help in the
experiments. The results were already communicated to the Conference
on Physics of High-energy Particles held in Kiev in 1959. There are
4 figures, 2 tables, and 15 references: 4 Soviet, 1 British, 3 Italian,
and 7 US.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy
(Joint Institute of Nuclear Research)

SUBMITTED: January 13, 1960

Card 3/4

85677

S/056/60/038/006/019/049/XX
B006/B070

E_{π^-} , MeV	σ_f , 10^{-28} cm ²	E_{π^-} , MeV	σ_f , 10^{-28} cm ²	E_{π^-} , MeV	σ_f , 10^{-28} cm ²	E_{π^-} , MeV	σ_f , 10^{-28} cm ²
158.2	58.4 \pm 2.0	220.2	52.2 \pm 1.0	254.7	39.8 \pm 0.8	302.5	28.9 \pm 0.8
171.7	67.2 \pm 1.1	225.0	50.2 \pm 0.9	258.0	38.8 \pm 0.8	307.7	28.1 \pm 0.8
178.4	67.2 \pm 1.1	228.3	48.2 \pm 0.9	261.4	36.8 \pm 0.8	313.0	28.7 \pm 0.7
185.2	67.7 \pm 1.0	231.6	49.0 \pm 0.9	266.5	35.6 \pm 0.8	318.2	27.0 \pm 0.6
189.9	67.8 \pm 0.8	234.9	44.5 \pm 0.9	271.6	33.4 \pm 0.8	323.5	26.2 \pm 0.6
196.2	64.0 \pm 1.1	238.2	44.9 \pm 0.9	276.7	31.1 \pm 0.8	328.2	26.4 \pm 0.6
201.0	63.8 \pm 1.0	241.5	42.7 \pm 0.9	281.8	32.4 \pm 0.8	334.2	26.0 \pm 0.6
205.8	59.3 \pm 1.0	244.8	43.1 \pm 0.9	286.9	31.6 \pm 0.8	345.0	24.9 \pm 1.0
210.6	58.7 \pm 1.1	248.1	41.0 \pm 0.9	292.0	30.5 \pm 0.8	361.0	25.2 \pm 1.0
215.4	55.6 \pm 1.0	251.4	39.3 \pm 0.9	297.2	29.3 \pm 0.8		

Card 4/4

ZINOV, V.G.; KORENCHENKO, S.M.; POLUMORDVINOVA, N.I.; TIENTYUKOVA, G.N.

Phase shift analysis of scattering of 240-330 Mev π -mesons on
hydrogen. Zhur.eksp.i teor.fiz. 38 no.5:1407-1418 My '60.
(MIRA 13:7)

1. Ob'yedinennyy institut yadernykh issledovaniy.
(Mesons--Scattering)

ZINOV, V.G.; KONIN, A.D.; KORJENCHENKO, S.M.; PONTEKOROV, B.

Search for the ρ^0 -meson and a check of the dispersion relations in
 πN -scattering. Zhur.eksp.i teor.fiz. 38 no.6:1708-1714 Je
'60. (MIRA 13:7)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Mesons)

83573

S/056/60/038/005/006/050
B006/B070

24.6900
AUTHORS:

Zinov, V. G., Korenchenko, S. M.

TITLE:

Charge Exchange Scattering of π^- Mesons by Hydrogen at
Energies of 240-330 Mev

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 38, No. 5, pp. 1399-1406

TEXT: From the experimentally found angular distribution of the gamma quanta resulting from pion decay, the authors have determined the angular distribution of π^0 mesons. The experimental arrangement is schematically shown in Fig. 1, and is briefly described. A detailed description is given in Ref. 1. The target was liquid hydrogen. The counters were connected partly in coincidence and partly in anti-coincidence. The gamma quanta resulting from π^0 decay were recorded at eight angles, and the ratio of the number of coincidences of the type 12346 (Q) to the number of double coincidences of the type 12 (D) was measured. (The figures indicate the counters in Fig. 1). The difference of the Q/D ratios obtained with and without hydrogen target was determined. Denoting this difference by

Card 1/3

83573

Charge Exchange Scattering of π^- Mesons by
Hydrogen at Energies of 240-330 Mev

S/056/60/038/005/006/050
B006/B070

$(Q/D)_{\text{diff}}$, the differential charge exchange scattering cross section is
calculated from the formula $(d\sigma/d\Omega)_{\text{diff}} = \frac{(Q/D)_{\text{diff}}}{N\Omega f} \cdot 10^{-6}$, where N is

the average number of hydrogen atoms per cm^2 ($\approx 0.447 \cdot 10^{24}$), Ω is the
solid angle, and f the correction for the admixture of muons in the beam
(4.5 to 5.5%). The extensive experimental material is clearly shown in
tabular form. Tables 1 and 2 give the measured values of Q/D with and
without hydrogen at eight different angles for 240 and 333 Mev π^- mesons.
Tables 3 - 6 give differential gamma-production cross sections for charge
exchange scattering of 240, 270, 307, and 333 Mev π^- mesons by hydrogen. The
experimentally observed production cross section of gamma quanta may be
expressed in terms of the coefficients of π angular distribution in the

following way: $(d\sigma/d\Omega)_{\text{exp}} = \frac{1 - \beta^2}{(1 - \beta \cos \theta)^2} \sum_{l=1}^{\infty} \epsilon_l(\theta) k_{l1} A_{l1}^0 P_l(\cos \gamma)$. The

$\epsilon_l(\theta)$ are defined by formula (5); β is the velocity in the center-of-mass
system, θ is the emission angle in the laboratory system, γ is the emission
Card 2/3

83573

Charge Exchange Scattering of π^- Mesons by
Hydrogen at Energies of 240-330 Mev

S/056/60/038/005/006/050
B006/B070

angle in the center-of-mass system of the gamma quanta. The coefficients A_1^0 obtained by solving this equation by the method of least squares are given in Table 7; the $E_1(\theta)$ for 240 and 333 Mev are given in Table 8. Using the calculated values of A_1^0 (Table 7, formula (4)), the angular distribution of the π mesons in the center-of-mass system can be obtained from the production cross section of the gamma quanta as the sum of the terms in the first three Legendre polynomials: $(d\sigma/d\omega)_{\pi^- \rightarrow \pi^0} = A_0^0 + A_1^0 P_1(\cos \theta) + A_2^0 P_2(\cos \theta)$. The gamma-quantum recording efficiency ϵ as a function of the quantum energy, E , is shown in Fig. 2. The k_1 coefficients of (4) are given in Table 9; the coefficients of the angular distribution of the gamma quanta in the formula $d\sigma/d\omega = \sum A_l^0 P_l(\cos \theta)$ are given in Table 10. The coefficients of angular distribution of the π^0 mesons are given in Table 11. There are 2 figures, 11 tables, and 4 references: 3 Soviet and 1 US.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy
(Joint Institute of Nuclear Research)

SUBMITTED: November 17, 1959
Card 3/3

83574
S/056/60/038/005/007/050
B006/B070

24.6900

AUTHORS:

Zinov, V. G., Korenchenko, S. M., Polumordvinova, N. I.,
Tentyukova, G. N. 19

TITLE:

Phase Shift Analysis of the Scattering of π Mesons by
Hydrogen in the Energy Range 240 - 330 Mev

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 38, No. 5, pp. 1407-1418

TEXT: In the previous paper in this issue (p. 1399), the authors have published the results of (π^-, p) charge-exchange scattering experiments. In the present paper, they give a phase shift analysis using the isotopic spin formalism which depends on the hypothesis of charge independence of the nuclear forces. The formulas are collected in the first part of the paper; in the second part, the method of phase shift analysis is briefly discussed, and the errors are determined. All calculations were performed on the fast electronic computer "Стрела" ("Strela"). The phase shift analysis, taking S and P waves into account (SP analysis), is given in part 3 of the paper. For every value of pion energy, 25 experimental points

Card 1/3

83574

Phase Shift Analysis of the Scattering of
 π Mesons by Hydrogen in the Energy Range
 240-330 Mev

S/056/60/038/005/007/050
 B006/B070

were used: eight differential elastic (π^+ ,p) scattering cross sections, seven differential elastic (π^- ,p) scattering cross sections, eight differential exchange scattering cross sections, and the two total scattering cross sections of the positive and the negative pions by hydrogen. Part of the experimental data are taken from the work of A. I. Mukhin, Ye. B. Ozerov, B. Pontekorvo, and N. A. Mitin. The phase shift data for 220-Mev pion energies, taken from a work of Ashkin et al., are given in Table 1. Depending on the kind of phase shift sets, the data are collected in seven variants in Tables 3-6 (for pion energies of 240, 270, 307, and 333 Mev). The angular distributions of the negative pions and gamma quanta for elastic and exchange scatterings calculated from the phase shifts, are shown in Figs. 1-4. The solid curves are drawn from the results of calculation from the formula $dc/d\omega = A_0 + A_1 P_1(\cos \theta) + A_2 P_2(\cos \theta)$; the broken lines are calculated from the SP analysis. The elements of the error matrix for pion energies of 220, 240, 270, 307, and 333 Mev are collected in Tables 7-11. The phase analysis taking S, P, and D waves into account (SPD analysis) is treated in part 4. The contribution of the D-waves (1-2) is already significant for $E_\pi \sim 300$ Mev. The numerical results of

Card 2/3

83574

Phase Shift Analysis of the Scattering of
 π Mesons by Hydrogen in the Energy Range
240-330 Mev

S/056/60/038/005/007/050
B006/B070

the calculations are given in Tables 12 and 13. The results of the phase shift analysis are compared with those obtained from the dispersion relations in part 5. (The real part of the scattering amplitudes for 0° are determined as functions of E_π by means of the dispersion relations, see Fig. 6). The authors thank B. Pontekorvo for interest and help; A. I. Mukhin, L. I. Lapidus, S. N. Sokolov, and N. P. Klepikov for discussions; and I. V. Popova and L. A. Chudov for setting up programs for the computer. A. M. Baldin, Vasilevskiy, and Vishnyakov are mentioned. There are 6 figures, 13 tables, and 19 references: 10 Soviet, 7 US, 1 Italian, and 1 CERN.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy
(Joint Institute of Nuclear Research)

SUBMITTED: November 17, 1959

Card 3/3

ZINOV, V.G.; KORENCHENKO, S.M.

Scattering of π -mesons on hydrogen at energies of 240 and 270 Mev.
Zhur. eksp. i teor. fiz. 36 no. 2: 618-619 F '59. (MIRA 12:4)

1. Ob'yedinennyy institut yadernykh issledovaniy.
(Mesons---Scattering) (Hydrogen)

'21 (1)

AUTHORS:

Zinov, V. G., Konin, A. D.,
Korenchenko, S. M., Pontekorvo, B.

SOV/56-36-6-59/66

TITLE:

A Possible Method of Searching for η^0 -Mesons (Vozmozhnyy metod poiska η^0 -mezonov)

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 6, pp 1948 - 1950 (USSR)

ABSTRACT:

Baz', Okun', and Smorodinskiy drew the attention of the authors of the present "Letter to the Editor" to certain singularities in the energy dependence of cross sections. As this promised to be a possibility of detecting η^0 -mesons, the authors systematically investigated these cases and give a report on the results obtained. The intensity of a relatively narrow singularity in the energy dependence of the π^-p -interaction cross section might, in principle, indicate the existence of a η^0 -meson. It might be expected that in the reactions $\pi^- + p \rightarrow \pi^- + p$ and $\pi^- + p \rightarrow \pi^0 + n$ an anomaly occurs in the energy dependence on the threshold of the reaction $\pi^- + p \rightarrow \eta^0 + n$. The

Card 1/3

A Possible Method of Searching for ρ^0 -Mesons

SOV/56-36-6-59/66

width of the singularity depends on the interaction radius and may be obtained from the condition $kR \ll 1$; here k denotes the wave vector of the ρ^0 -mesons formed in the c.m.s. This possibility is briefly discussed. It is assumed that the life of the ρ^0 -mesons is long as against $\hbar/m c^2$. The relative amplitude of the singularity $\Delta\sigma/\sigma$ may amount to some %. The ρ^0 -meson is assumed to differ from the π^0 -meson only by the isotopic spin ($T = 0$). The ρ^0 -meson cannot decay quickly into 2 pions because of the conservation of parity, and because of the conservation of the quantum number G also not into 3 pions, so that the decay $\rho^0 \rightarrow \gamma + \gamma$, or, if the mass is sufficiently large, $\rho^0 \rightarrow \pi + \pi + \gamma$. If $m_{\rho^0} > 560 \text{ Mev}/c^2$, it may also decay into four pions. Finally, several further problems connected with the mass of the ρ^0 -meson are discussed. Ya. B. Zel'dovich pointed out that the existence of an exchange scattering of antiprotons ($\bar{p} + p \rightarrow \bar{n} + n$) indicates a difference between the

Card 2/3

A Possible Method of Searching for η^0 -Mesons

SOY/56-36-6-59/66

masses of π^0 - and η^0 -mesons. The authors finally thank L. I. Baz', V. B. Belyayev, B. N. Zakhar'yev, L. B. Okun' and Ya. A. Smorodinskiy for discussions. There are 6 references, 3 of which are Soviet.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: March 23, 1959

Card 3/3

21(7)

SOV/56-36-2-43/63

AUTHORS: Zinov, V. G., Korenchenko, S. M.

TITLE: The Scattering of π^- - Mesons on Hydrogen at the Energy of 240 Mev, 270 Mev (Rasseyaniye π^- - mezonov na vodorode pri energii 240 MeV, 270 MeV)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 2, pp 618 - 619 (USSR)

ABSTRACT: The authors investigated the elastic scattering and the exchange scattering of negative pions on hydrogen at the energies of 240 and 270 Mev. They used a negative pion beam of the synchrocyclotron of the OIYaI (United Institute of Nuclear Research) and the measurements were carried out by means of scintillation counters. Liquid hydrogen was used as a target. The values of the differential cross sections found are given in 2 tables (in the present abstract given in an abbreviated form:

Card 1/3

The Scattering of π^- -Mesons on Hydrogen at the Energy
of 240 Mev, 270 Mev

SOV/56-36-2-43/63

(240 \pm 7) Mev			
θ^0 (c.m.s.)	$\left(\frac{d\sigma}{d\omega}\right)_{\pi^- \rightarrow \pi^-}$	θ^0 (c.m.s.)	$\left(\frac{d\sigma}{d\omega}\right)_{\pi^- \rightarrow \gamma}$
39.9	1.60 ± 0.16	19.7	9.91 ± 1.21
97.8	0.82 ± 0.09	114.9	3.47 ± 0.43
158.1	1.97 ± 0.19	157.0	4.56 ± 0.60

270 \pm 7) Mev			
θ^0 (c.m.s.)	$\left(\frac{d\sigma}{d\omega}\right)_{\pi^- \rightarrow \pi^-}$	θ^0 (c.m.s.)	$\left(\frac{d\sigma}{d\omega}\right)_{\pi^- \rightarrow \gamma}$
40.6	1.40 ± 0.13	20.0	7.78 ± 0.94
98.8	0.60 ± 0.06	115.9	2.31 ± 0.30
158.4	1.56 ± 0.16	157.4	3.10 ± 0.42

If only S- and P- waves are assumed to take part in the scattering, the angular distribution can be written down as

Card 2/3

The Scattering of π^- -Mesons on Hydrogen at the Energy of 240 Mev, 270 Mev SOY/56-36-2-43/63

$$d\sigma/d\Omega = AP_0 + BP_1 + CP_2$$

where P_0, P_1, P_2 are Legendre (Lezhandr) polynomials. The values of the coefficients A, B, C are given in a table. The total cross sections of the interaction of negative pions with hydrogen at the energies of 240 and 270 Mev are equal to

$(48.3 \pm 3.3) \cdot 10^{-27} \text{ cm}^2$ and $(36.5 \pm 2.4) \cdot 10^{-27} \text{ cm}^2$, respectively. There are 3 tables.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (United Institute of Nuclear Research)

SUBMITTED: August 26, 1958

Card 3/3

SOV/128-59-10-11/24

18(5)

AUTHOR: Zinov, V.M., Engineer

TITLE: Hydromonitors for Cleaning Castings

PERIODICAL: Liteynoye proizvodstvo, 1959, Nr 10, pp 31-32 (USSR)

ABSTRACT: The author presents several schemes of hydromonitors for cleaning castings. The simplest construction is shown in fig.1. Through a pipe #1, closed up by a spheric abutment bearing #2, passing through pipe #3, the water enters the chamber under high pressure. Fig.4 shows a complete mechanized hydromonitor, developed by Ur-almashzavod. The hydromonitor constructed by Novo-Kramatorskiy zavod tyazhelogo mashinostroyeniya (Novo-Kramatorsk Factory for Heavy Machines) (Fig.5) has a transportation drive which consists of two telescopic jointed rods. Fig.6 shows a hydromonitor constructed by Ukgiprotiyazhmash. This one gets its alternate motion from a pneumatic drive. There are 6 diagrams.

Card 1/1

05163
SOV/120-59-3-34/46

AUTHOR: Zinov, V. G.

TITLE: Improvement of a Decade Scaler with Binary Scales
(Uluchsheniye dekadnogo perescheta na dvoichnykh
yacheykakh)

PERIODICAL: Priory i tekhnika eksperimenta, 1959, Nr 3,
p 135-136 (USSR)

ABSTRACT: A valve with two control grids (the second valve in Fig 2) is included in the back-coupling circuit to improve the reliability (ie to reduce the dependence on supply voltages and on size of input pulse). The pulse from the first scale-of-two is allowed to pass to the second only when the fourth is in its first stable state (ie unless the scaler reads 8 or 9). When the reading is 8, the unit functions as a simple scale of 2, with the output pulse appearing when the tenth pulse arrives. A delay is inserted in the loop back to the extra (gating) valve in order to prevent the gate from opening before the circuits have settled back to their normal states just after the tenth pulse.

Card 1/2

05463

SOV/120-59-3-34/46

Improvement of a Decade Scaler with Binary Scales

The device is said to work reliably up to 400,000 c/s (regularly spaced). There are 2 figures and 1 Soviet reference.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy
(Joint Nuclear Research Institute)

SUBMITTED: May 4, 1958

Card 2/2

ZINOV, V.M.

Pedal valves. Mashinostroitel' no.3:40 Mr '59. (MIRA 12:3)
(Valves)

25(2)

SOV/117-59-3-30/37

AUTHOR: Zinov, V.M.

TITLE: A Pedal Valve (Pedal'nyy klapan)

PERIODICAL: Mashinostroitel', 1959, Nr 3, p 40 (USSR)

ABSTRACT: The short note describes and illustrates a special pedal-actuated valve which replaced the conventional stopper valves on water pipelines (for the water washing dirt from the visor and lighting windows of hydraulic chamber). The valve will be installed on the floor of the work platform and actuated by the operator by pressing on the pedal. A spring shuts the valve when the foot releases the pedal. There is 1 diagram.

Card 1/1

ZINOV, V.M.

AUTHOR: Zinov, V.M., Engineer 118-58-4-19/23

TITLE: Centrifuges for the Dehydration of Sand (Tsentrifugi dlya obezvozhivaniya peska)

PERIODICAL: Mekhanizatsiya Trudoyemkikh i Tyazhelykh Rabot, 1958, Nr 4, pp 41-42 (USSR)

ABSTRACT: The author describes various centrifuges for the dehydration of sand, such as the PM-1200 and PS-1200. The Zavod "Stankolit" - Moskva (Moscow "Stankolit" Plant) uses two automatic centrifuges type AG-1800 and NOGSh. The Khar'kovskoye otdeleniye nauchno-issledovatel'skogo instituta khimicheskogo mashinostroyeniya (Khar'kov Branch of the Scientific Research Institute for Chemical Machine Construction) has designed the horizontal automatic centrifuge AG-1200-2U, the production of which has been started at the Sumskiy zavod imeni M.V. Frunze (Plant imeni M.V. Frunze in Sumy). There is 1 figure and 1 table.

AVAILABLE: Library of Congress

Card 1/1

1. Centrifuges-Applications 2. Sand-Dehydration-Equipment

ZINOVA, A. D.

62/49741

USSR/Medicine - Marine Organisms Jul/Aug 48
Medicine - Botany

System Species of the Genus *Porphyra* From
Murmansk Shores and the White Sea and a New
Species, *Porphyra Holenae* Zin., "A. D. Zinova,
Bot. Inst. Imeni V. L. Komarov, Acad. Sci. USSR,
Leningrad, 3 pp

"Botan. Zhur." Vol. XXXIII, No. 4

Gives characteristics of four species of the
Porphyra genus, the *Porphyra abyssicola* Kjellm.,
the *Porphyra miniata* (Ag.) Kjellm., the *Porphyra*
amplicornis (Kjellm.), and the new species,

62/49741

USSR/Medicine - Marine Organisms Jul/Aug 48
(Contd.)

Porphyra Holenae. New species grows on stones
and algae of the littoral zone in protected
places. It is found on Sosnovets Island in the
White Sea, and in Dal'n'ye Zelentsy, Yermakovy,
and Kildin in Murmansk. Submitted 12 Nov 47.

62/49741

ZINOVA, A. D.

"Forms of Phyllitis Fasci Kutz," Bot. zhur., 34, No. 2, 1949

Botanical Inst. im. Komarov, Dept. Biol. Sci., AS USSR, Leningrad

1. ZINOVA, A.D.
2. USSR (600)
4. Algae
7. A new species of brown algae, *Halidrys murmanica* A. Zinova sp. nova. Bot.mat. Otd. spor.rast. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Unclassified.

ZINOVA, A.D.

[Guide to the brown algae of the northern seas of the U.S.S.R.] Opredeletel' burykh vodoroslei severnykh morei SSSR. Moskva, Izd-vo Akademii nauk SSSR, 1953. 224 p.

(MLA 6:7)

(Algae)

Remarks - D 372691 - 23 Dec 55

KISELEV, I.A.; ZINOVA, A.D.; KURSANOV, L.I.

[Classification manual of lower plants] *Opređelitel' nizshikh rastenii v piati tomakh.* Moskva, Gos. izd-vo "Sovetskaiia nauka."
Vol. 2 [Algae] *Vodorosli.* 1953. 310 p. (MLRA 7:2)
(Algae)

ZINOVA, A.D.

New red alga of the genus Halosaccion (De alga rhodophytica nova:
a genere Halosaccion). Bot.mat.Otd.spor.rast. 9:93-95 My '53.

(MLBA 7:2)

(Algae)

ZINOVA, A.D.

New family, genus, and species of brown algae. Trudy Bot. inst.
Ser. 2 no.9:223-244 '54. (MLRA 7:11)
(White Sea--Algae)

ZINOVA, A.D.

Materials on algal flora of the White Sea, Trudy Bot. inst.
Ser. 2 no.9:245-258 '54. (MLRA 7:11)
(White Sea--Algae)

ZINOVA, A.D.

TOPACHEVS'kiy, O.V. [reviewer]

"Guide to lower plants." Vol. 2: Algae. I.A. Kiselev, A.D. Zinova,
L.I. Kursanov. Reviewed by O.A. Topachevs'kiy. Bot. zhur. [Ukr.] 11
no.3:126 '54. (MIRA 8:7)
(Kiselev, I.A.) (Algae)

ZINOVA, A.D.: SAVICH, V.P., professor, zaslushennyy doyatel' nauki RSFSR,
redaktor; GOLOVIN, M.I., redaktor; KRUGLIKOVA, N.A., tekhnicheskii
redaktor.

[Guide to red algae of the northern seas of the U.S.S.R.] Opredelitel'
krasnykh vodoroslei severnykh morei SSSR. Moskva, Izd-vo Akademii
nauk SSSR, 1955. 219 p. (MIRA 8:4)
(Russia, Northern-Algae)

ZINOVA, A.D.

Marine algae in the eastern part of the Soviet sector of the Arctic.
Trudy Inst. okean. 23:146-167 '57. (MIRA 11:3)

1. Botanicheskiy institut AN SSSR.
(Arctic Ocean--Algae)

ZINOVA, A.D.

Studying species of the genus *Sphaerotrichia* Kyl. Bot. zhur. 43
no.10:1462-1469 0 '58. (MIRA 11:11)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad.
(Algae)

ZINOVA, A.D., kand.biol.nauk

Composition and nature of algal flora in shore waters of the
Antarctic and near Kerguelen and Macquarie Islands. Infrom.
biul.Sov.antark.eksp. no.3:47-49. '58. (MIRA 12:4)

1. Botanicheskiy institut AN SSSR.
(Antarctic regions--Algae)
(Kerguelen Islands--Algae)
(Macquarie Island--Algae)

ZINOVA, A.D.

List of marine algae of southern Sakhalin and the southern islands
of the Kurile chain. Izv. dal'n. nauch. ts. SSSR no. 6:146-161
'59. (MIRA 13:3)

1. Botanicheskiy institut AN SSSR.
(Sakhalin--Algae) (Kurile Islands--Algae)

ZINOVA, A.D.

~~Phyllogigas and Himantothallus~~
Phyllogigas and Himantothallus, two brown algae from the Antarctic.
Bot. zhur. 44 no.3:372-379 Mr '59. (MIRA 12:7)

1. Botanicheskiy institut im. V.L. Komarova AN SSSR, Leningrad.
(Antarctic regions--Algae)

ZINOVA, A.D., VOZZHINSKAYA, V.B.

Finding the red alga Chordaria magellanica Kylin in the
northern part of the Pacific Ocean. Bot. mat. Otd. spor.
rast. 13:117-118 '60. (MIRA 13:7)
(Pacific Ocean--Algae)

ZINOVA, A.D.,

New algae hitherto unknown in the Sea of Japan. Bot. mat.
Otd. spor. rast. 13:113-117 '60. (MIRA 13:7)
(Japan, Sea of--Algae)

TSAPKO, A.S., otty.red.; **GLIKMAN, S.A.**, doktor khim. nauk, prof., red.;
GEMP, K.P., st. nauchn. sotr., red.; **GRYUNER, V.S.**,
doktor tekhn. nauk, red.; **DANILOV, S.N.**, red.;
YEVTUSHENKO, V.A., kand. khim. nauk, red.; **ZINOVA, A.D.**,
kand. biol. nauk, red.; **KIZEVETTER, I.V.**, doktor tekhn.
nauk, red.; **KIREYEVA, M.S.**, kand. biol. nauk, red.;
VULIKHMAN, M.A., red.; **POTEKHIN, L.P.**, red.

[Transactions of the First All-Union Conference of Workers
in the Algal Industry of the U.S.S.R.] Trudy Pervogo Vse-
soluznogo nauchno-tekhnicheskogo soveshchaniia po vodo-
roslevoi promyshlennosti SSSR. Arkhangel'sk, Arkhangel'skoe
knizhnoe izd-vo. Vol.1. 1962. 214 p. (MIRA 17:12)

1. Vsesoyuznoye soveshchaniye rabotnikov vodoroslevoy pro-
myshlennosti SSSR. 1st. 2. Chlen-korrespondent AN SSSR (for
Danilov). 3. Vsesoyuznyy nauchnyy institut morskogo rybnogo
khozyaystva i okeanografii (for Kireyeva). 4. Nachal'nik
Upravleniya rybnoy promyshlennosti Arkhangel'skogo sovnar-
khoza (for TSapko). 5. Saratovskiy gosudarstvennyy universiteta
im. N.G.Chernyshevskogo (for Glikman).

ZINOVA, A. D.

"Features of the marine algal flora of the Black Sea."

report submitted for 10th Intl Botanical Cong, Edinburgh, 3-12 Aug 64.

AS USSR, Leningrad.

ZINOVA, A.D.

The red alga *Dilsea integra* (Kjellm.) Rosenv. Hot. mat. Otd.
spor. rast. 14:82-86 Ja'61.

Index of marine algae collected by A.A. Birula in Spitsbergen.
Ibid.:86-87

Algae of the Mezen Bay (White Sea). Ibid.:87-90 (MIRA 17:2)

ZINOVA, A.D.

Representatives of the family Delesseriaceae (Rhodophyta) from
the islands of Kerguelen and Macquarie. Bot. mat. Otd. spor. rast.
16:52-67 '63. (MIRA 16:10)

BOBROV, Ye.G.; BONDARTSEV, A.S.; BORISOVA, A.G.; VASIL'KOV, B.F.;
VASIL'CHENKO, I.T.; GOLUBEKOVA, V.P.; GRUDZINSKAYA, I.A.;
YEGOROVA, T.V.; ZINOVA, A.D.; IVANINA, L.I.; LEONOVA, T.G.;
MATSENKO, A.Ye.; PIDOTII, O.I.; POBEDIMOVA, Ye.G.; POLYAKOV,
P.P.; POYARKOVA, A.I.; SAVICH, V.P.; SIN'KOVA, G.M.; SMIRNOVA,
Z.N.; SMOL'YANINOVA, L.A.; FEDOROV, A.I.A.; KHARADZE, A.L.;
TSVELEV, N.N.; SHISHKIN, B.K. [deceased]; PEN'KOVA, G.A., red.;
BARANOVA, L.G., tekhn. red.; FRIDMAN, Z.L., tekhn. red.

[Botanical atlas] Botanicheskii atlas. Moskva, Sel'khozizdat,
1963. 501 p. (MIRA 16:12)

1. Chlen-korrespondent AN SSSR (for Shishkin).
(Botany--Atlases)

ZINOVA, A.D.

Representatives of the genus *Rhodoglossum* J. Ag. found near the
Soviet coast of the Pacific Ocean. Bot. mat. Otd. spor. rast.
15:70-74 Ja '62. (MIRA 15:10)
(Pacific Ocean—Algae)

BERNSHTEYN, S.A., inzh.; DANILOV, A.M. inzh.; ZINOVA, A.N., inzh.

Use of rapid-hardening concrete in lining ventilation shafts at
the "Chaykino-Glubokaya" mine No. 1. Shakht. stroi. no.5:25-26 '58.
(MIHA 11:6)

(Shaft sinking) (Concrete)

SHAFERSHTEYN, I.Ya.; ZINOVA, A.P.

Determination of sulfosalicylic acid. Ukr.khim.zhur.17 no.5:786-792
'51. (NLEA 9:9)

L'vovskiy gosudarstvennyy universitet.
(Salicylic acid)

ZINOVA, A-P.

British Abst.
A III
Aug. 1953
Radiations

✓ Analysis of the combination of serum albumin and sulphosalicylate.
I. Y. Shaferstein and A. P. Zinova (*Biokhimiya*, 1952, 17, 7-12).—
Sulphosalicylate is shown to act as a dibasic acid in reacting with
serum albumin, and the mechanism of pptn. of proteins by this
and other dibasic acids is discussed.
D. H. SMYTH

Inst. Chem., Khar'kov State Univ

157 AND 158 GROUP PROCESSIES AND PROPERTIES INDEX

ZINDYA, Ye. S.

The seaweeds of the White Sea, and their practical application. H. H. Zindya. *Trudy Inst. Prom. Issledovaniy (Arkhangel'sk) No. 6, 6-45 (in French 10/11/20).* -- The paper deals chiefly with the Island Zhirgin and its industrial exploitation of seaweeds. Seventy-eight varieties have been identified and listed. The most important one for the extr. of iodine is the *Laminaria*. At present the only use to which these weeds are put is the extr. of I. The method generally is to burn the weeds and ext. the ashes in Shauk's app. Recently, a new method involving preliminary fermentation of the weeds, is being adopted. 2. discusses various other known and suggested uses for seaweeds, comprising human consumption as food and in medicines; prepn. of agar-agar and other gelatins; prepn. of algin and alginic acid; prepn. of alcohols, acetic acid and acetone; feed for cattle; and fertilizers. D. K.

ASB-56A METALLURGICAL LITERATURE CLASSIFICATION

SECTION 1

SECTION 2

SECTION 3

SECTION 4

SECTION 5

SECTION 6

SECTION 7

SECTION 8

SECTION 9

SECTION 10

SECTION 11

SECTION 12

SECTION 13

SECTION 14

SECTION 15

SECTION 16

SECTION 17

SECTION 18

SECTION 19

SECTION 20

SECTION 21

SECTION 22

SECTION 23

SECTION 24

SECTION 25

SECTION 26

SECTION 27

SECTION 28

SECTION 29

SECTION 30

SECTION 31

SECTION 32

SECTION 33

SECTION 34

SECTION 35

SECTION 36

SECTION 37

SECTION 38

SECTION 39

SECTION 40

SECTION 41

SECTION 42

SECTION 43

SECTION 44

SECTION 45

SECTION 46

SECTION 47

SECTION 48

SECTION 49

SECTION 50

SECTION 51

SECTION 52

SECTION 53

SECTION 54

SECTION 55

SECTION 56

SECTION 57

SECTION 58

SECTION 59

SECTION 60

SECTION 61

SECTION 62

SECTION 63

SECTION 64

SECTION 65

SECTION 66

SECTION 67

SECTION 68

SECTION 69

SECTION 70

SECTION 71

SECTION 72

SECTION 73

SECTION 74

SECTION 75

SECTION 76

SECTION 77

SECTION 78

SECTION 79

SECTION 80

SECTION 81

SECTION 82

SECTION 83

SECTION 84

SECTION 85

SECTION 86

SECTION 87

SECTION 88

SECTION 89

SECTION 90

SECTION 91

SECTION 92

SECTION 93

SECTION 94

SECTION 95

SECTION 96

SECTION 97

SECTION 98

SECTION 99

SECTION 100

SECTION 101

SECTION 102

SECTION 103

SECTION 104

SECTION 105

SECTION 106

SECTION 107

SECTION 108

SECTION 109

SECTION 110

SECTION 111

SECTION 112

SECTION 113

SECTION 114

SECTION 115

SECTION 116

SECTION 117

SECTION 118

SECTION 119

SECTION 120

SECTION 121

SECTION 122

SECTION 123

SECTION 124

SECTION 125

SECTION 126

SECTION 127

SECTION 128

SECTION 129

SECTION 130

SECTION 131

SECTION 132

SECTION 133

SECTION 134

SECTION 135

SECTION 136

SECTION 137

SECTION 138

SECTION 139

SECTION 140

SECTION 141

SECTION 142

SECTION 143

SECTION 144

SECTION 145

SECTION 146

SECTION 147

SECTION 148

SECTION 149

SECTION 150

SECTION 151

SECTION 152

SECTION 153

SECTION 154

SECTION 155

SECTION 156

SECTION 157

SECTION 158

SECTION 159

SECTION 160

SECTION 161

SECTION 162

SECTION 163

SECTION 164

SECTION 165

SECTION 166

SECTION 167

SECTION 168

SECTION 169

SECTION 170

SECTION 171

SECTION 172

SECTION 173

SECTION 174

SECTION 175

SECTION 176

SECTION 177

SECTION 178

SECTION 179

SECTION 180

SECTION 181

SECTION 182

SECTION 183

SECTION 184

SECTION 185

SECTION 186

SECTION 187

SECTION 188

SECTION 189

SECTION 190

SECTION 191

SECTION 192

SECTION 193

SECTION 194

SECTION 195

SECTION 196

SECTION 197

SECTION 198

SECTION 199

SECTION 200

SECTION 201

SECTION 202

SECTION 203

SECTION 204

SECTION 205

SECTION 206

SECTION 207

SECTION 208

SECTION 209

SECTION 210

SECTION 211

SECTION 212

SECTION 213

SECTION 214

SECTION 215

SECTION 216

SECTION 217

SECTION 218

SECTION 219

SECTION 220

SECTION 221

SECTION 222

SECTION 223

SECTION 224

SECTION 225

SECTION 226

SECTION 227

SECTION 228

SECTION 229

SECTION 230

SECTION 231

SECTION 232

SECTION 233

SECTION 234

SECTION 235

SECTION 236

SECTION 237

SECTION 238

SECTION 239

SECTION 240

SECTION 241

SECTION 242

SECTION 243

SECTION 244

SECTION 245

SECTION 246

SECTION 247

SECTION 248

SECTION 249

SECTION 250

SECTION 251

SECTION 252

SECTION 253

SECTION 254

SECTION 255

SECTION 256

SECTION 257

SECTION 258

SECTION 259

SECTION 260

SECTION 261

SECTION 262

SECTION 263

SECTION 264

SECTION 265

SECTION 266

SECTION 267

SECTION 268

SECTION 269

SECTION 270

SECTION 271

SECTION 272

SECTION 273

SECTION 274

SECTION 275

SECTION 276

SECTION 277

SECTION 278

SECTION 279

SECTION 280

SECTION 281

SECTION 282

SECTION 283

SECTION 284

SECTION 285

SECTION 286

SECTION 287

SECTION 288

SECTION 289

SECTION 290

SECTION 291

SECTION 292

SECTION 293

SECTION 294

SECTION 295

SECTION 296

SECTION 297

SECTION 298

SECTION 299

SECTION 300

SECTION 301

SECTION 302

SECTION 303

SECTION 304

SECTION 305

SECTION 306

SECTION 307

SECTION 308

SECTION 309

SECTION 310

SECTION 311

SECTION 312

SECTION 313

SECTION 314

SECTION 315

SECTION 316

SECTION 317

SECTION 318

SECTION 319

SECTION 320

SECTION 321

SECTION 322

SECTION 323

SECTION 324

SECTION 325

SECTION 326

SECTION 327

SECTION 328

SECTION 329

SECTION 330

SECTION 331

SECTION 332

SECTION 333

SECTION 334

SECTION 335

SECTION 336

SECTION 337

SECTION 338

SECTION 339

SECTION 340

SECTION 341

SECTION 342

SECTION 343

SECTION 344

SECTION 345

SECTION 346

SECTION 347

SECTION 348

SECTION 349

SECTION 350

SECTION 351

SECTION 352

SECTION 353

SECTION 354

SECTION 355

SECTION 356

SECTION 357

SECTION 358

SECTION 359

SECTION 360

SECTION 361

SECTION 362

SECTION 363

SECTION 364

SECTION 365

SECTION 366

SECTION 367

SECTION 368

SECTION 369

SECTION 370

SECTION 371

SECTION 372

SECTION 373

SECTION 374

SECTION 375

SECTION 376

SECTION 377

SECTION 378

SECTION 379

SECTION 380

SECTION 381

SECTION 382

SECTION 383

SECTION 384

SECTION 385

SECTION 386

SECTION 387

SECTION 388

SECTION 389

SECTION 390

ZINOVA, Ye.S. [deceased].

~~Algae of the Arctic Ocean. Trudy Bot. inst. Ser. 2 no. 11: 39-51 '56.~~
(Arctic Ocean--Algae) (MLHA 10:2)

ZINOVA, Ye.S.

Algae of Okhotsk Sea. Trudy Bot. inst. Ser. 2 no.9:259-310 '54.
(Okhotsk Sea--Algae) (MLHA 7:11)

ZINOVA, Ye.S.

Algae of Tatar Strait. Trudy Bot. inst. Ser. 2 no. 9: 311-364 '54.
(Tatar Strait--Algae) (MLHA 7:11)

ZINOVA, Ye.S.

Marine algae of southeastern Kamchatka. Trudy Bot. inst. Ser. 2 no. 9:
365-400 '54. (MLRA 7:11)
(Kamchatka--Algae)

ZINOVEV, N.

Pribzhenyi metod otsenki vibratsionoi nadezhnosti turbinnykh diskov. Tallin,
Izd-vo Tallinskogo Politekhnikheskogo Instituta, 1958. 14 p.

TULIMULD (Eesti PEN-klubi, Valismaine Eesti Kirjuniike Liit,
Ulemasilmne Eesti Kirjanduse Selts) Lund. Estonia.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no.12, Dec. 1959

Uncl.

ZINOVATNYI, V.A.

Work practice of the permanent active production conference.
Razved. i okh. neдр 27 no.6:48-50 Je '61. (MIRA 14:9)

1. Artemovskaya kompleksnaya geologorazvedochnaya partiya.
(Prospecting)

ZINOVEYEV, I.

AUTHOR: Zinoveyev, I.

107-57-5-22/63

TITLE: The Voice of Peace and Friendship. The Whole World Listens to Moscow
(Golos mira i druzhby. Moskvu slushayet ves' mir)

PERIODICAL: Radio, 1957, Nr 5, p 17 (USSR)

ABSTRACT: Dimitr Geraskov, Sofia, Bulgaria, writes about the "great interest" to Moscow broadcasts in Bulgaria. Moscow radio receives daily "hundreds of letters" from "over one hundred countries of the world". Frantisek Bogumil, Czechoslovakia, writes about a "durable peace in the whole world". A. Tanius, Lebanon, writes: "Your radio tells truth and exposes the intrigues of colonizers and warmongers..." Letters of radio listeners state that the "Voice of America", BBC, "Free Europe" are trying to obfuscate the listeners while the Moscow radio is helping correctly "orientate oneself in the political situation". P. Diversi, an Italian radio listener, believes that Moscow broadcasts favorably differ from the "warmongers' broadcasts" in discussing "peace, construction projects, life". R. Bullen, England, finds that Moscow information "corrects the wrong information offered to us here". P. Guido, Italy, speaks about "truth" of Moscow broadcasts. R. Khusto (Russian spelling), Argentine, speaks about the "hopes" inspired by the Moscow radio.

Three photos show small audiences of Moscow radio in Poland, Rumania, and Outer Mongolia.

AVAILABLE: Library of Congress

Card 1/1

NOV 24
BORISOVA, I.; ZINOVEYEV, I.

The whole world tunes in to Moscow. Radio no.5:16-17 My '57.
(Moscow--Radiobroadcasting) (MLRA 10:6)

ZINOVIK, L.

Bank and community control. Den. i kred. 20 no.6:53-54 Je
'62. (MIRA 15:6)

1. Nachal'nik kreditnogo otдела Oktyabr'skogo otdeleniya gosudarstven-
nogo banka g. Sverdlovska.
(Sverdlovsk Province--Banks and banking)
(Sverdlovsk Province--Industrial management)

ZINOVICH, Ivan Yevdokimovich; ZAVERNYAYEVA, L.V., red.; PONOMAREVA,
A.A., tekhn. red.

[Economic analysis of collective-farm production]Ekonomi-
cheskii analiz kolkhosnogo proizvodstva. Moskva, Ekonomizdat,
1962. 148 p. (MIRA 15:10)
(Khmel'nitskiy Province--Collective farms--Accounting)

MEKHEDA, M.I.; redaktor; ZINOVICH, I. Ye., redaktor; ROMANENKO, K.N.,
redaktor; SULKOVSAYA, M.A., redaktor; ZUBRILINA, Z.P., tekhnicheskii
redaktor; GUREVICH, M.M., tekhnicheskii redaktor

[Our experience in studying the collective farm economy; a collection
of articles based on a Khmel'nitskiy Province agricultural conference]
Nash opyt izucheniia kol'khoznoy ekonomiki; sbornik statei po materia-
lam Khmel'nitskoy oblasti ekonomicheskoi sel'skokhoziaistvennoi
konferentsii. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1956. 166 p.
(Collective farms) (MLRA 9:12)

LUTSEVICH, P.A.; MONGALEV, G.F.; MIKHALEVICH, N.G.; ZINOVICH, K.F.;
SAFRONENKO, A.P.; KLIMENKOV, P.A.; GAYDUKEVICH, N.M.; SILIN,
M.S.; BRAZOVSKIY, P.V.; KOVPAK, M.D.; MELESHKEVICH, O.A.;
KAMENTSEVA, V.N.; KULIKOVSKIY, A.V.; TARAYKOVICH, P.I.;
ALEYNIKOV, G.A.; SHMULEVICH, Sh.S.; GRACHEVA, K.I.; NIKOLAYEVA,
Yu.N.; VOLOKHOV, M.A.; DOMASHEVICH, O., red.; KARKLINA, E.,
red.; ZUYKOVA, V., tekhn. red.

[Manual for livestock raisers] Spravochnik zhivotnovoda.
2., dop. i perer. izd. Minsk, Gos.izd-vo sel'khoz.lit-ry
BSSR, 1963. 462 p. (MIRA 16:8)

1. Glavnyy zootekhnik Upravleniya nauki Ministerstva sel'skogo
khozyaystva Belorusskoy SSR (for Safronenko).
(Stock and stockbreeding)

ZINOVICH, N.S.

5(2)125(1) PHASE I BOOK EXPLOITATION SOV/2313
Akademika nauk SSSR. Institut mashinovedeniya
Porybeniya stoykosti detalей машин /sul'fidirovaniya/ i sbornik
statей (Increasing the Wear Resistance of Machine Parts /Sul-
furation/). Collection of Articles. Moscow, Mashgiz, 1959.
126 p. Errata slip inserted. 4,500 copies printed.
Ed. (Title page): N. N. Khrushchov, Doctor of Technical Sciences;
M. (Inside book): A.O. Nikitin, Engineer; Tech. Ed. V.D.
Kil'man; Managing Ed. for Literature on General Technical and
Transport Machine Building (Mashgiz): E.L. Kozlov, Engineer.
REMARKS: This collection of articles is intended for engineering
and technical workers of machine-building and overhauling plants.
CONTENTS: This book presents results of investigations of methods
to increase the resistance of machine parts to seizure. A new
method of sulfurization which improves the friction behavior of
cast iron and steel and an analysis of the effect of sulfuriza-
tion on the anti-friction properties and wear of metal are given.
These articles are the transactions of a seminar held at the
Institute of Mechanical Engineering of the Academy of Sciences,
USSR, in December 1956.

TABLE OF CONTENTS:

Dobrovolskaya, M.N., Doctor of Chemical Sciences, Ye. A. Alek- seyeva, and E.V. Khablova, Engineers. Selecting Salt Baths for Sulfurization of Iron Alloys. 62
The authors recommend the use of a salt bath as the most controllable and uniform method of sulfurization. They develop the suggestions of these baths and the optimum temperatures of operation.
Zinovich, N.S., Engineer. Investigation of the Sulfurization Process. 79
The author discusses sulfurization in the liquid bath, bath operating at medium and low temperatures, control of the process, X-ray and metallographic investigations, hardness, work-in, and wear resistance tests.
Zelamova, V.D., Engineer. X-ray Analysis of the Surface Layer of Sulfurized Specimens. 95
The author investigated various bath compositions by X-ray analysis in order to evaluate the character of sulfurization in respect to simultaneous formation of nitrides.
Kil'man, T.P., Engineer. Sulfurization of Iron Carbide With Emery in Mineral Oil and Emulsion. 105
The author describes a process in which a sulfur suspension in mineral oil and emulsion are introduced together into the furnace. This process is a combined sulfurizing and cyaniding process having several advantages in comparison with other sulfurization methods according to the author.
Gill'man, T.P., Engineer. Sulfurization of Bushings Made of Iron Powder by Introducing Sulphur into the Charge. 105
The author describes the results of experiments using a method claimed by the author to be more effective than sulfurizing at Stalingrad Tractor Plant in collaboration with the Automobile and Tractor Scientific Research In- stitute. The author stresses the advantages of this process which gives a uniform distribution of sulfides in the metal.

AUTHORS: Werner, Ye.E. and Zinovich, N.S. SOV/129-59-3-14/16
 TITLE: Properties of Bearing Materials at 20 - 125 °C
 (Svoystva podshipnikovyykh materialov pri 20 - 125°)
 PERIODICAL: Metallovedeniye i Termicheskaya Obrabotka Metallov,
 1959, Nr 3, pp 56 - 59 (USSR)

ABSTRACT: In IC engines, the operating temperatures of bearings frequently reach 100 °C. Usually given characteristics of the mechanical properties of bearing materials refer to temperatures not exceeding 25 °C. In this paper, the results are described of mechanical tests of bearing alloys in the temperature range 20 - 125 °C. The chemical compositions (in %) of the four investigated alloys were as follows:

	Sn	Sb	Cu	Te	Ni	Cd	As	Pb
B89 base	7.8	3.8	-	-	-	-	-	0.10
B83	82.58	11.11	6.13	-	-	-	-	0.15
BN	9.56	14.26	1.84	-	1.25	1.73	0.65	base
BT	9.97	14.82	0.78	0.08	-	-	-	"

Card 1/3 Of these, two are tin-base alloys and two lead-base alloys, mainly with antimony and copper additions.

SOV/129-59-3-14/16

Properties of Bearing Materials at 20 - 125 °C

The measured hardness values are entered in Table 2, the results of compression tests at temperatures up to 120 °C are entered in Table 3 and the ratios of the hardness to the yield point in compression are entered in Table 4. The measured data are also plotted in graphs, Figures 1-5. On the basis of the obtained results, the following conclusions are arrived at.

- 1) In tin alloys of the type B83, an increase in the temperature does not bring about a decrease in the plastic properties, characterised by the flattening of the specimen as a result of compression. In lead alloys, the magnitude of the flattening decreases appreciably with increasing temperature.
- 2) For alloys which contain SnSb crystals as the hard structural component, the ratio of the hardness to the compression strength was not a constant value; with increasing test temperature, this ratio also increases without any specific interrelation (it differs for each of the alloys).
- 3) The cracking up of the babbitt BN and the flattening of the babbitt ET observed in the operation of bearings

Card2/3

Properties of Bearing Materials at 20 - 125 °C SOV/129-59-3-14/16

in the case of excessive tightening is explained not only by the difference in the fatigue strength but also by the fact that at elevated temperatures the babbitt BN breaks up almost without any plastic deformation (with a low magnitude of flattening of the specimen), whilst the babbitt BT has a relatively low strength. There are 5 figures, 4 tables and 1 Soviet reference.

Card 3/3

L 3415-66 EWP(e)/EWT(m)/EWP(w)/EWP(l)/T/EWP(t)/EWT(b) IJP(c)
MJW/JD/GS

ACCESSION NR: AT5024873

UR/0000/65/000/000/0065/0074

AUTHOR: Zinovich, N. S.

TITLE: Experience in using boronizing in tractor building

SOURCE: AN UkrSSR. Institut problem materialovedeniya, Diffuzionnyye pokrytiya na metallakh (Diffusion coatings on metals). Kiev, Naukova dumka, 1965, 65-74

TOPIC TAGS: boron, metal heat, treatment, wear resistance, tractor

ABSTRACT: With the object of increasing the wear resistance of the blocks and link pins of caterpillar tracks and determining the effect of increasing the hardness of one member of the friction pair the author investigated the effect of the boronizing of link pins on the service life of blocks of the DT-54A caterpillar tractor, cast of G13L high-manganese steel. The boronizing was performed in a bath of borax at 950°C in the presence of electric current for 1.5-2.0 hr, resulting in the formation of a 0.12-0.18 mm deep diffusion layer on the surface of the link pins. This layer consisted of the iron borides FeB and Fe₂B and its hardness was H_v = 1400-1900. Following their boronizing, the link pins were normalized at

Card 1/3

L 3415-66

ACCESSION NR: AT5024873

820-840°C for 2 hr, surface-hardened in a high-frequency current installation, and oil-tempered at 180°C for 2 hr. Subsequent laboratory wear-resistance tests of the link pins in a friction pair with lugs revealed that, under conditions of purely abrasive wear, the boronized layer not only protects the link pin against wear but also markedly reduces the wear of the lugs. This was followed by field tests on 53 tractors of the DT-54A type, of which 12 were with non-boronized link pins. After 667 hr the boronized link pin still is hardly worn and retains its shape, whereas the non-boronized link pin becomes deformed and unfit for further operation. On chernozem soils the average service life of the boronized link pins is 2400 hr compared with 1760 hr for non-boronized link pins; the wear of the lugs operating in a pair with boronized link pins is generally 15% lower. Thus, the boronizing of link pins in the track blocks of the DT-54 tractors, designed for operation in highly abrasive soils, increases the service life of these pins by 70-80%, markedly reduces the wear of the block lugs, and hence also, by extension, slows down the wear of the coupling elements, and it should be recommended primarily for the link pins used in the track blocks of tractors operated on sandy soils. Orig. art. has: 6 figures.

Card

2/3

L 3415-66

ACCESSION NR: AT5024873

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MM, IE

NR REF SOV: 000

OTHER: 000

Card 3/3 *ML*

ZINOVICH, N.S.

USSR/Engineering - Chrome plating

Card 1/1 : Pub. 12 - 8/14

Authors : Zinovich, N. S., and Avrukh, E. L.

Title : Thermodiffusion chrome-plating of precision parts for a fuel manifold

Periodical : Avt. trakt. prom. 5, 25-27, May 1954

Abstract : Thermodiffusion chrome-plating of precision parts for a fuel manifold is described. The chrome plating was conducted on components made of KhVG, ShKh15, and 18 steels in the temperature range of 900 to 1150°C. Tables; illustrations; graph.

Institution : Sci Res Auto Tractor Inst

Submitted :

KUZNETSOV, Ye.A.; ZINOVKIN, A.D.

Geological and petrological investigation of the Sysert granite
massif. Trudy Inst.geol.nauk no.147:55-141 '53. (MLRA 7:3)
(Sysert massif--Granite) (Granite--Sysert massif)

ZINOVKIN, G.

Technically based time norms for loading and unloading work.
Biul. nauch. inform.: trud i nar. plata 3 no.8:15-19 '60.

(MIRA 13:9)

(Loading and unloading--Production standards)

FROLOV, G.; ZINOVKIN, G.

Methodology of creating and using uniform norms for loading and
unloading work. Sets. trud 5 no.11:102-106 N '60. (MIRA 14:1)
(Loading and unloading--Production standards)

BARABASH, M.; ZHUKOVA, N.; ZHURAVLEV, I.; ZINOVKIN, G.

Technically based time norms for loading and unloading work
in refrigerators. Biul.nauch.inform.: trud i zar.plata 3
no.9:27-30 '60. (MIRA 13:9)
(Loading and unloading--Production standards) (Refrigerators)

ZIMOVKIN, G.

Obligation successfully carried out. Avt. transp. 34 no.6:
27 Je '56. (MLRA 9:9)

(Transportation, Automotive)

ZINOVKIN, G.S., inzh.

Prospects of the development of the electrical insulator
industry. Elektrotehnika 35 no.1:13 Ja '64.

(MIRA 17:2)

~~ZINOVKIN, G.S.~~, otv. za vypusk; GOL'DINA, N.I., red.; PONOMAREVA, A.A.,
tekhn.red.

[Unified production and time norms for ship loading and unloading
operations in sea harbors] Edinye normy vyrabotki i normy vremeni
na sudovye pogruzochno-razgruzochnye raboty, vypolniaemye v morskikh
portakh. Moskva, Gosplanizdat, 1960. 381 p.

(MIRA 14:4)

1. Moscow. TSentral'noye byuro promyshlennyykh normativov po trudu.
(Harbors) (Loading and unloading--Standards)

-ZINOVKIN, G.S., otv. za vypusk; GOL'DINA, E.I., red.; GERASIMOVA,
Ye.S., tekhn.red.

[Standard work and time norms for loading and unloading of
railroad cars, motor vehicles, and work in warehouses]

Edinye normy vyrabotki i vremeni na vagonnye, avtotransportnye
i skladskie pogruzochno-razgruzochnye raboty. Moskva, Gosplan-
izdat, 1960. 301 p. (MIRA 14:2)

1. Moscow. Tsentral'noye byuro promyshlennykh normativov po
trudu.

(Loading and unloading)

ZINOVKIN, G.S. Otv. za vypusk; GOL'DINA, E.I., red.; GHRASIMOVA, Ye.S.,
tekhn.red.

[Unified production and time standards for ship loading and
unloading operations in river harbors] Edinye normy vyrabotki
i vremeni na sudovye pogruzochno-razgruzochnye raboty, vypolniamye
v rechnykh portakh. Moskva, Gosplanizdat, 1960. 276 p.

(KIRA 14:4)

1. Moscow. Tsentral'noye byuro promyshlennykh normativov po trudu.
(Harbors) (Loading and unloading--Standards)

SOROCHKIN, Igor' Mikhaylovich; GRISHIN, Leonid Ivanovich; ZINOVKIN,
G.S., retsenzents; BARBASHIN, M.K., retsenzents; KORBUT, L.V.,
red.; SATAROVA, A.M., tekhn. red.

[Organization of work and wages in meat combines] Organiza-
tsiia truda i zarabotnoi platy na miazokombinatakh. Moskva,
Pishchepromizdat, 1963. 202 p. (MIRA 16:6)

(Meat industry--Management)

(Wages--Meat industry)

ZINOVKINA, L.N., meditsinskaya sestra (Moskva)

Spinal puncture and complications from brain and spinal cord tumors.

Med. sestra 20 no.8:51-54 Ag '61.

(MIRA 14:10)

(SPINE--PUNCTURE)

(SPINAL CORD--TUMORS)

(BRAIN--TUMORS)

SOV/95-59-2-8/13

AUTHORS: Zinovkina, M.M. and Krikun, V.Ya., Engineers

TITLE: Construction and Road Making Machines Equipped With New Device for Transportation Speed Reduction of Tractors S-80, Without Substitution of Tractor Gear Box (Stroitel'nyye i dorozhnyye mashiny s novoy skhemoy ponizheniya transportnykh skorostey traktora S-80 bez zameny traktornoy korobki)

PERIODICAL: Stroitel'stvo truboprovodov, 1959, Nr 2, pp 21-23 (USSR)

ABSTRACT: One of the basic equipments of construction machines and road making machines, such as rotary excavators, trench fillers, pipe-laying machines, etc, is the tractor for moving the machine. Such tractor needs to be adapted to the working conditions of the respective machines, in particular in regard to speed reduction, which so far could only be done by replacing the original gear box by a new one equipped with additional speeds. The MEMZ (Moscow Experimental Mechanical Plant) has elaborated a new scheme of reducing the transportation speeds of the tractor S-80, without replacing the tractor gear box. The reducing mechanism has been executed in the shape of a single-step planetary reducer with interior meshing mounted on the upper gear shaft. The design and

Card 1/2

SOV/95-59-2-8/13

Construction and Road Making Machines Equipped With New Device for Transportation Speed Reduction of Tractors S-80, Without Substitution of Tractor Gear Box

operation of the mechanism are fully described in the article and illustrated by a drawing. The gear box thus equipped with a planetary reducer has 5 transportation speeds "forward" and 4 transportation speeds "reverse"; it has also 4 working speeds "forward" and 4 working speeds "reverse". The experimental model of this mechanism has been tested in the plant and is now undergoing road tests. There are: 1 photograph and 1 diagram.

Card 2/2